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Do Students Grades in Physics Correlate with Grades in Other Subjects?

Alice Neff
Drake University

arrangement attached to the 110 volt line to give any desired plate potential, but these accessories have been left out in the interest of simplicity, and because only approximate results were required.

As an example of the data given by this instrument, readings were made on 10 tubes type 210A, selected at random from the laboratory stock. The best tubes gave value of 1.2 m.a., while the poorer tubes which would give but mediocre results in a radio set gave values of 0.7 m.a.

DRAKE UNIVERSITY,
DES MOINES, IOWA.

DO STUDENTS' GRADES IN PHYSICS CORRELATE WITH GRADES IN OTHER SUBJECTS?

ALICE NEFF

If we compare students' grades in physics with grades in other subjects, we find figures which are worth some notice as they reveal interesting facts.

Using the grades of 87 of Drake University College physics students, I find that their average grade in other subjects and their physics grades give a correlation of 90%. The means of both the physics and average grade are almost a C+.

Not long ago a professor of Iowa University made the statement (over the radio) that physics is the most difficult subject in the college curriculum. We find many of the students favoring this opinion and I believe they form it from a preconceived personal prejudice rather than from investigation of any particular data or statistics.

From this first correlation I conclude that physics is not more difficult since the means of it and the average grades are exactly the same, i.e. C+. However there must be some explanation to the student's opinion, and here we may suggest the factor of individual interests. Of course different students have various interests and the difficulty of a subject depends on the intensity of the interest.

We may rather expect a considerable degree of correlation between other sciences and physics, and here again we find the high correlation of 87%, and the means are almost C+, in both cases. Since the means are practically the same in the two subjects we are led to believe that other sciences are very similar to physics in degree of difficulty.

There are a veriety of opinions among the different universities

and colleges as to whether the Freshman Intelligence tests contain or do not contain certain values. There was one general conclusion agreed to by practically all at Drake University; the tests were indicative of the groups as a whole.

Upon correlating the final percentiles of these tests and the physics grades, I obtain a correlation of 75%. These figures not only support the general conclusion but also show that we may take a smaller group from the large one and compare their intelligence quotients and physics grades and yet obtain a high correlation.

Great scholars, since the time of Plato and Aristotle, have been disagreeing over humanism and realism, or classics and science. It is interesting to note that the lowest correlation found in this investigation is between physics and the humanistic studies. This correlation of 73% is sufficient however to indicate that there is not such a chasm between these two branches as we often times lead ourselves to believe. The mean of the physics grades in this group is 0.5 of a grade lower than the humanistic.

Among these 87 students there are many who are taking this subject as a requirement. Those who will continue other courses in physics are in the minority. The higher average of the humanistic subjects is accounted for by these facts. The majority of the students are more interested in these other subjects and they have a slightly higher average here than in physics.

The grades of students in humanistic subjects show a mean higher than physics while the linguistic grades give a mean which is 0.8 of a grade lower.

The Drake University language teachers agree that girls make better language students than do boys. Boys being often inconsistent in their preparation and disliking memory work do not make grades which may be compared with those of girls. The majority of the students with whom I worked are boys and I account for this difference by these facts. But despite the difference of the means there is a correlation of 81%.

Summing up these results, I find: (1) grades in physics and average grades have the same means and 90% correlation; (2) grades in other sciences and physics have the same means and 87% correlation; (3) physics grades and Intelligence Quotients give a correlation of 75%; (4) humanistic subjects give a higher mean than physics but correlate with physics 73%; (5) linguistic subjects give a lower mean than physics but correlate with physics 81%.

From these facts I conclude that students grades in physics highly correlate with grades in other subjects and hence physics would seem to present no greater difficulties to the student than those encountered in his other subjects.

DRAKE UNIVERSITY,
DES MOINES, IOWA.

OPTICAL CONSTANTS OF BISMUTH CRYSTALS IN THE ULTRA-VIOLET

FLORENCE E. DIX

(ABSTRACT)

Index of refraction and extinction index for light reflected from a cleavage surface of a bismuth crystal have been determined at several wavelengths in the ultra-violet. The crystelliptometer of Weld is being used. A comparison in the overlapping region with the measurements of Rowse will be given.

STATE UNIVERSITY OF IOWA,
IOWA CITY, IOWA.

MAGNETIC PROPERTIES OF THIN FILMS OF IRON, ELECTROLYTICALLY DEPOSITED

E. P. T. TYNDALL

(ABSTRACT)

Films of iron from 100 to 200 millimicrons thick deposited electrolytically from neutral and acid solutions of iron ammonium sulphate show a surprising magnetic hardness. At a field of 40 gauss the intensity of magnetization is from 200 to 300 c.g.s. units. No sudden increase in magnetization is found up to fields of 150 gauss. Films deposited on the initial film, using much smaller current densities than that required for the initial deposit, show the usual properties of electrolytic iron. An intensity of magnetization of 1000 is reached at 40 gauss field. The cause of the hardness of the initial films is not apparent. The great thickness at which it occurs in comparison with Maurain's critical thickness renders unlikely the assumption of a pure "thinness" effect. It may be due to the occluded hydrogen, though it does not seem likely that much hydrogen is occluded since (1) a heat treatment in carbon dioxide of several hours at 250°C changes